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Controlling growth around naval air stations: a transferable development rights model for Naval Air Station Cecil Field, Jacksonville, Florida.

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CONTROLLING GROWTH AROUND NAVAL AIR STATIONS: A TRANSFERABLE DEVELOPMENT RIGHTS MODEL FOR NAVAL AIR STATION CECIL FIELD, JACKSONVILLE FLORIDA

BY

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A TERMINAL PROJECT PRESENTED TO THE GRADUATE COUNCIL OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF ARTS IN URBAN AND REGIONAL PLANNING

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CONTROLLING GROWTH AROUND NAVAL AIR INSTALLATIONS: A TRANSFERABLE DEVELOPMENT RIGHTS MODEL FOR NAVAL AIR STATION CECIL FIELD, JACKSONVILLE FLORIDA

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The purpose of this research is to establish a model of transferable development rights that will help to control growth around naval air installations. With present development trends around military installations encroachment conflicts have increased, resulting in severe problems for both naval air stations and local communities. The establishment of a voluntary market driven Transferable Development Rights (TDR) Program would alleviate local and incompatible land use problems by redirecting growth to areas that would be better suited to handel the increasing rate of urbanization. This research examines the potential for the establishment of a TDR program on the outside perimeter of Naval Air Station Cecil Field in Jacksonville Florida. The proposed TDR model will protect present non-developed areas

from future development pressures, ensuring controlled growth around the naval air facility. The net effect is preservation of specific important areas with equitable compensation for owners. There is no cost to the taxpayer since no acquisition by the government is involved and simultaneously the development needs of the growing population can be met. The transfer of development rights is a technique to solve land use fundamental dilemmas without violating basic rights and due process as quaranteed under the Constitution. A TDR program basically balances the advantage and disadvantages of public policy decisions in regard to planning and land development regulations.

CHAPTER 1

HISTORICAL PERSPECTIVES

Florida's Growth Management

In 1922 the Standard State Zoning Enabling Act was issued by the United States Department of Commerce (Frank, 1985). This model provided the necessary express delegation and framework for local governments to create legally enforceable zoning regulations. As a result of the landmark case of Euclid v. Ambler Realty Co. in 1926 (272 U.S. 365), it was recognized that municipal planning and regulation of land use, was a valid exercise of the police power of the State. Further, the Standard City Planning Enabling Act of 1928 also passed by the United States Department of Commerce (Frank, 1985), established the foundation of most states to require planning commissions at the municipal level. The crucial requirement was the formulation of a master plan, which at the time consisted of a zone map or zoning map for the control of the height, area, bulk, location and use of building and premises. This policy established the philosophy of "in accordance with the comprehensive plan" (Harr 1965). As reaffirmed by two similar landmark cases, that of Euclid v. Ambler Realty Co.(272 U.S. 365) and Nectow v. Cambridge (277 U.S. 183), they emphasized how courts then began to deal with

growth management issues. These two landmark cases stressed how authority through the implementation of a plan dealt with the fabric of life safety and welfare in growth management. In essence, it established the fact that every planning action must begin with a plan (a comprehensive plan). Further the cases showed that if police powers were used, one must have a plan, in doing so, it would be precatious and defendable and would have fulfilled "due process."

Florida has experienced more than other states, incredible population growth after World War II. Florida began serious and comprehensive efforts to manage its growth coincident with the increasing strength of the environmental movement. Two sets of legislative initiatives, the first in the early 1970's and the second in the mid 1980's, moved Florida to the front ranks in state efforts to manage growth (DeGrove, 1987). The set of laws adopted in 1972, focused on giving the state and regional levels a limited role in land and water management. Earlier, this had been largely the domain of local governments and special districts. In 1975. the legislature adopted the "Local Government Comprehensive Planning Act" (Fla. Stat, 163), mandating that all local governments prepare a Comprehensive Plan.

In 1985 the State of Florida adopted the "State Comprehensive Plan" and the "Omnibus Growth Management Act" (Fla. Stat, 163, 187). John DeGrove a principal drafter, built the system around three key requirements: consistency,

concurrency and compactness (DeGrove, 1987). The heart of the growth management system is the preparation of local plans and implementing regulations, which are consistent with the goals and policies of the state and regional plans, including the key requirements of concurrency and compactness.

With Florida's current growth management philosophy and the ever increasing population surrounding naval installations, encroachment conflicts will continue to increment between the local governments and the military.

Airport Growth

Civil aviation received its first impetus with the adoption of the Air Mail Act of 1925 and the Air Commerce Act of 1926 (Rhyne, 1944). The first act was designed to recognize the growing importance of civil air transport industry. The Army was given the task of carrying the air mail which resulted in the funding of air aviation development. The second act began to mark out safety regulations to assure the most public good out to the new type of transportation. In the period of 1926 through 1929, 27 states including Florida, adopted legislation authorizing cities and counties to use public tax funds to acquire property for airports (Fla. L, 1929). That legislation followed the ideas expressed in the "Uniform Airport Act" and expressly declared that publicly-owned was a "public purpose" (Rhyne, 1944).

In the case of Duval County, in 1939 the Supreme Court of Florida held that the taking of property for a Naval Base was proper local function, although the base was to be used by the federal government only (Gibbs v. Gordon, 1939). The State of Florida upheld the power of Duval Municipality to take property under the power of Eminent Domain and pay for it out of the public tax funds as for a "public use," where the property was to be used by the federal government in carrying out the national defense war program. In essence, the State of Florida enacted an airport district act to authorize the creation of an airport district for the acquisition of property for a naval air base.

In 1952 President Harry S. Truman established a Presidents's Airport Commission to look into the problems of airports and their use (Airport Commission report, 1952). The establishment of the commission was an outgrowth of a sequence of tragic accidents in Northern New Jersey\New York metropolitan areas. This accentuated the fear of many communities that aircraft represented a serious hazard to areas in close proximity to public\military airports. This was the point in time where an increase awareness of nuisance aspects in the use of airports, particularly with respect to noise began to emerge. In the landmark case of U.S. v. Causby (U.S. v. Causby) the court found liability, not as a result of noise intrusion, but as a result of physical intrusion due to frequent overflight's, (the chickens were being damaged by the

low flying aircraft). One of the report's conclusions was that joint use of congested airports by civil and military aviation was undesirable, especially when in some cases military aircraft had to be armed. The Commission further recommended that the locations of new military air bases be incorporated in accordance with city and regional development plans.

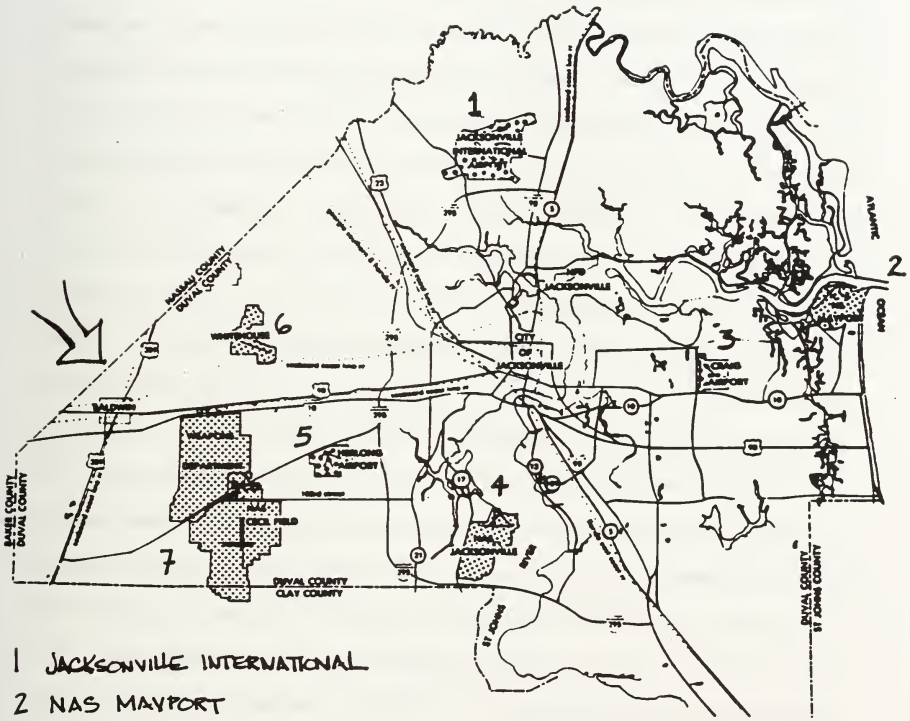
Florida Statues 333.02 in the interest of the public health, public safety and general welfare requires that the creation or establishment of airport hazards and incompatible land uses be prevented. The State Legislature gave the authority to local governments to establish and adopt airport zoning regulations for such airport hazard areas (Fla. Stat, 333.03). The authority also requires the establishment of Airport Land Use Compatibility Zoning, which means that local governments can restrict the use of land next to or near airports.

In 1968 the County of Duval and the City of Jacksonville reorganized politically and consolidated, establishing a unique form of local government. The consolidation made the city of Jacksonville the largest land area in the United States.

The City of Jacksonville contains seven airports within its district. A major commercial international airport to the North and two general aviation airports, Graig airport to the East and Herlog airport to the West. The four military air

bases are, Naval Air Station Mayport to the Eat, Naval Air Station Jacksonville to the South and Naval Air Station Cecil Field to the West with an outlying landing field, Whitehouse (Cecil Field Master Plan, 1988). See figure 1-1.

REA LOCATION



1 JACKSONVILLE INTERNATIONAL
2 NAS MAYPORT
3 CRAIG AIRPORT
4 NAS JACKSONVILLE
5 HERLOG AIRPORT
6 OLF WHITEHOUSE
7 NAS CECIL FIELD

N

SOURCE: NAS CECIL FIELD
MASTER PLAN
NAVAL FACILITIES ENGINEERING CO.

FIG 1-1

TDR Concept

Transfer of development rights (TDRs) is a concept where the use rights under land development regulations are made "transferable" from one parcel of land to another in order to preserve some identified value in the first parcel from incompatible on-site development (Siemon, 1992). A TDR system simply takes some of the content of the bundle of rights for one piece of property and transfers or relocates it to another piece of property. Typically, this is done by shifting the future development potential from one piece of property (the sending site) to another piece of property (the receiving site). Unlike zoning regulations that can be changed under the electoral system or development pressures, a TDR system requires a legal restriction (recorded on the property deed) on the sending site, prohibiting any future use of the transferable development potential. The receiving site may be permitted to be developed in accordance with the new increased densities to which is legally untilled (Roddewig, 1987).

The transfer of development rights helps a community plan its growth. The net effects is preservation of specific important areas with equitable compensation for owners. There is no cost to the taxpayers since no acquisition by the government is involved and simultaneously the development needs of the growing population can continue to be met. The transfer of development rights is a technique to solve land

use fundamental dilemmas without violating basic rights and due process as guaranteed under the Constitution (Chavooshian, 1973). It combines planning with certain aspects of property law. Land owners in the preserved areas, who will continue to own their land, may sell their rights for further development to other landowners or builders who wish to develop areas proposed for development.

TDR programs are an alternative to governmental programs that impose unmitigated wipeouts in property value and to public acquisitions of development rights. TDRs are an entrepreneurial, free market transactions, by which private developers rather than the local government purchase the development rights from the owners of agricultural or other open land and thereby mitigate the windfalls and wipeouts of planning and land development regulations. TDR programs have a number of advantages when used for resource protection when compared to straightforward regulation or acquisition (Siemon, 1992). First, TDRs generally involve permanent limitations on the future development of "sending" parcels. Second, unlike purchases of development rights, TDR programs do not put the government in the position of being the permanent title holder to a large number of property interests. TDRs allow the landowner to retain the underlying property for beneficial use other than on-site development. Fourth, they allow development rights from one property to be used to accommodate development in other parts of the community, rather than just permanently

"banking" the rights as a purchase of development rights program would do.

A TDR system can be a win\win situation for communities with military installations. First, a TDR system can protect large amounts of land around the military installations from the development pressures of urban sprawl. Most successful TDR programs have been created for the protection of farmlands or environmental sensitive lands. Military installations with large amounts of open or rural lands can use a TDR program to ensure no development occurs in the future. This is especially of great concern for naval air installations that require large amounts of land for safe aircraft flight operations. Second, the receiving sites can benefit from increased densities. The principal focus of a TDR system must be on the real estate marketplace and its operations. With Florida's Growth Management Laws and its concurrency requirements, no development can proceed unless it has adequate infrastructure. To accommodate uncontrolled urban sprawl with infrastructure is economically unfeasible and when done the cost is usually passed on the home buyer. If receiving sites are adequately selected or planned with sufficient infrastructure to sustain the increased densities, the cost of infrastructure is reduced and housing becomes more affordable. If receiving sites are focused with affordable homes, the real estate market would sustain a TDR program.

Legal Aspects

The legal concept underlying the TDR system is that titled to real estate in not a unitary or monolithic right, but rather it may be compared to a "bundle of rights" each of which may be separated from the rest and transferred to someone else, leaving the original owner with all other rights of ownership (Rose, 1984). One of the components of this bundle of rights known as a "fee simple" or ownership of the full title to land, is the right to develop the land. In rural and agricultural areas, where there is little expectation of development in the foreseeable future, the right to develop the land has little value. In areas in the path of urban development, the development rights tends to become the component of greatest value among the many rights of ownership. The transfer of development rights system seeks to separate the right to development from the other components of titled and sell that right only, leaving the owner of the land with all other rights except the right to develop.

The legal issues raised by the TDR proposals fall into two categories: statutory and constitutional. The statutory issue arises where a local government adopts a TDR ordinance without specific state enabling legislative authorization. The typical state legislation will authorize a municipality to adopt zoning subdivisions, and official map laws but no state has specifically authorized a municipality to enact a TDR ordinance. TDR programs are usually adopted as part of a local

zoning ordinance, so the legal issues raised by their adoption are often the same as those for a zoning ordinance. Of the fifty states only 21 states and the District of Columbia specifically mention TDRs as a function of local government planning zoning or land-use regulation. (Roddewig, 1987).

Besides the statutory issues, there are several constitutional issues that are relevant to TDR programs. The issues of a "taking" and "due Process" are of vital concern not just in TDRs but in land-use in general. It is argued that a TDR program results in a "taking" of property of the farmer or owner of other preserved land in that the effect of the ordinance is to prohibit the development of his land in return for the opportunity to sell his development rights. This argument has been raised in several decisions. In Fred F. French Investing Co. v. City of New York (350 N.E. 2nd 381), The New York Court of Appeals considered the validity of a New York City zoning ordinance designed to preserve park space through the use of a TDR system. The zoning ordinance in issue rezoned privately owned property, previously used as a private park in a residential complex, for public park use. The effect of this zoning designation was to prohibit development on this land. In return for this restriction of development, the corporate owner was permitted to convey developments rights from this land to land not owned by it in a designated commercial area in the vicinity. The New York court held the zoning ordinance to be an invalid exercise of the police power

under the due process clauses of the New York State and Federal Constitutions. In this case the zoning amendment was unreasonable and therefore unconstitutional, because of due process of law, it deprived the owner of all his property rights except the bare title. An exercise of police power to regulate private property by zoning which is unreasonable constitutes a depravation of property without due process of law. The point to stress her is that if a regulation is used it must be a valid and reasonable and not create a depravation of property.

In penn. Central Transportation Co. v. City of New York (438, U.S. 104), the court upheld the validity of the New York City Landmarks Preservation Law that was adopted to protect historic landmarks from destruction. The ordinance provided that buildings designated by a landmarks commission as a "landmark" could not be altered or destroyed without commission permission. Owners of landmark sites were authorized, under the ordinance, to transfer development rights from the landmark parcel to nearby lots. The Grand Central Terminal building was designated as a landmark. Its owner sought permission to build a multistory office building over the terminal. The landmarks commission denied the application. The United States Supreme Court held that the application of the Landmarks Law to the Penn Central Terminal building and the denial of the application to use the adjacent airspace for more intensive building development did not

constitute a "taking" within the meaning of the Fifth and Fourteenth Amendments. This case will be cited in support of TDR programs to preserve farmland as precedent for the argument that a TDR program that denies the owner to the right to development farmland does not constitute a "taking" of his property.

In City of Hollywood v. Hollywood, Inc., a developer challenged the constitutionality of an ordinance that classified the beach front portion of its 92-acre parcel differently from the remainder. The ordinance required that the developer either permanently dedicate the protected beach front as open space in exchange for transferring density to another portion of its parcel, or develop the beach front at the allowed density of seven dwelling units per acre. The trial court hearing the case found the TDR ordinance "insupportable in fact of law" and overturned it. The Florida District Court of Appeals reversed and upheld the TDR ordinance requiring the density transfer provision. The court cited the Penn Central decision as seminal in the area of TDRs and reasoned that the government's action was properly related to a valid public purpose, and that the economic impact of the density transfer provision could well leave the developer in a better position than he could occupy otherwise (Fla. 4th DCA, 1983).

These three cases illustrate an important point about the legal basis of TDR systems: mandatory TDR programs that impose

a zoning or land-use restriction on the protected "sending" sites and create TDRs in exchange may be subject to much closer judicial scrutiny than voluntary TDR programs (Roddewig, 1987).

This research will operationalize the concept of TDRs in that voluntary TDR programs are less susceptible to taking issues and are more compatible to the needs of the development chain.

CHAPTER 2

NAVAL AIR STATION CECIL FIELD

Naval Air Station Cecil Field

Naval Air Station Cecil Field was commissioned in December of 1941 as an auxiliary air station (Utilization report, 1989). This was the direct result of Duval Municipality exercising its power of Eminent Domain. During World War II, it was used as a flight training center and later it became inactive. It became operational again in 1948, furnishing support for two carrier air groups. When the Korean War began in June of 1950, Cecil Field was one of four bases selected for further development to specifically serve jet aircraft. It was formally designated a Master Jet Base in 1964. Cecil Field occupies more than 20,000 acres including 8,549 at the main station and 1,812 in fee title, 680 in easements at the Outlying Landing Field Whitehouse and 9,091 at Weapons Department (Utilization Report, 1989).

The official mission of Naval Air Station Cecil Field is to provide facilities, service and material support for the operation and maintenance of naval weapons and aircraft to activities and units of the operating forces. Included in the mission is the operation of Outlying Landing Field (OLF)

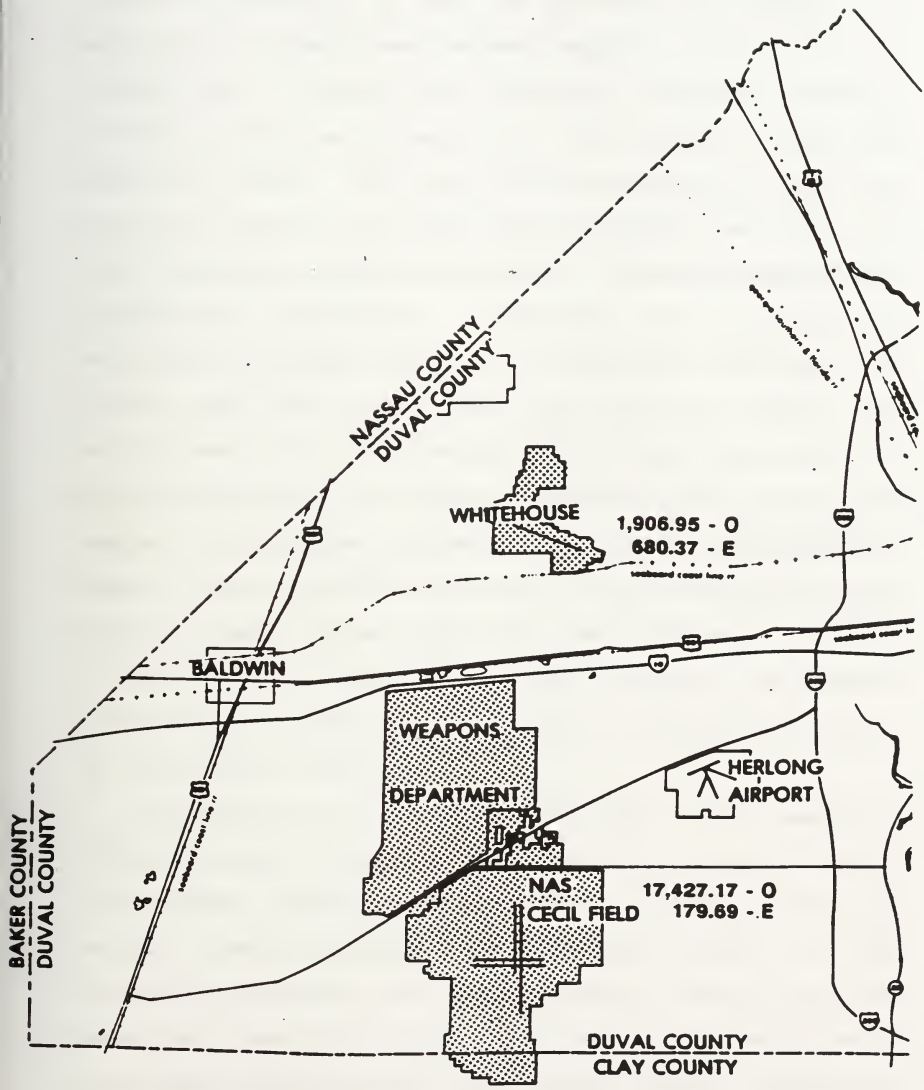
Whitehouse, providing support at the Pinecastle and Target Complex in Central Florida, and the operation of the Charleston Tactical Air Combat Training System Range.

Naval Air Station Cecil Field is located in Southwestern Duval County, Florida and North central Clay County, Florida. OLF Whitehouse is located seven miles north of the main entrance of the station and lies totally within Duval County. See figure 1-2. The city of Jacksonville is the site for three major naval installations. They account for nearly 50,000 active sty military and civilian workers, making the complex the third largest in the continental United States. The Navy has a definite impact on the Jacksonville community. The most significant impact is the economic impact, totaling 1.5 billion dollars in 1989 (Utilization Report, 1989).

Encroachment Conflicts

Over the years the Navy has acquired land and shore facilities that equate to enormous capital investments. The utility of land, and its value to the Navy, depends upon both current use and the possible uses to which it could be put in the future. Encroachment of Navy facilities by local governments, interest groups and the private sector have created numerous problems across the continental United States. Encroachment from a military context, is defined as any non-Navy action planned or executed in the vicinity of

AL ESTATE



SOURCE: NAS CECIL FIELD
MASTER PLAN
NAVAL FACILITIES ENGINEERING COM.

FIG- 1-2

Navy/Marine Corps activity or normal area of operation which inhibits, curtails, or has the potential to impede the performance of operations (Defense Depart. , 1973). This has occurred at a variety of activities including weapons stations, communication facilities, air stations, ranges and amphibious bases. The scope of encroachment is wide and varied and extends well beyond Navy property. The source is often population growth and movement. Pressures result from residential, commercial, industrial and recreational development. Although the Navy has developed techniques for dealing with the socioeconomic and political aspects of encroachment in the pre-formative stage, it must be handled as an existing problem, on a case-by-case basis with a pro-active approach. Encroachment is particularly serious to the Navy as oppose to other services because most of its facilities are in rapidly growing coastal population areas. Although the State of Florida is in the implementation stage of the Growth Management Act, urban growth continues to grow with the influx of new residents from other states.

Encroachment is a two-way street. Just as the community inhibits a naval air base, so does the naval air base inhibits the community. The encroachment problem is both land and air related. Land encroachment is attributed mostly to the surrounding community and four distinct conflicts can be identified. (see figure 1-3). First the new residential/golf development planned adjacent to the East boundary, not only is

ENCROACHMENT - Cecil Fi

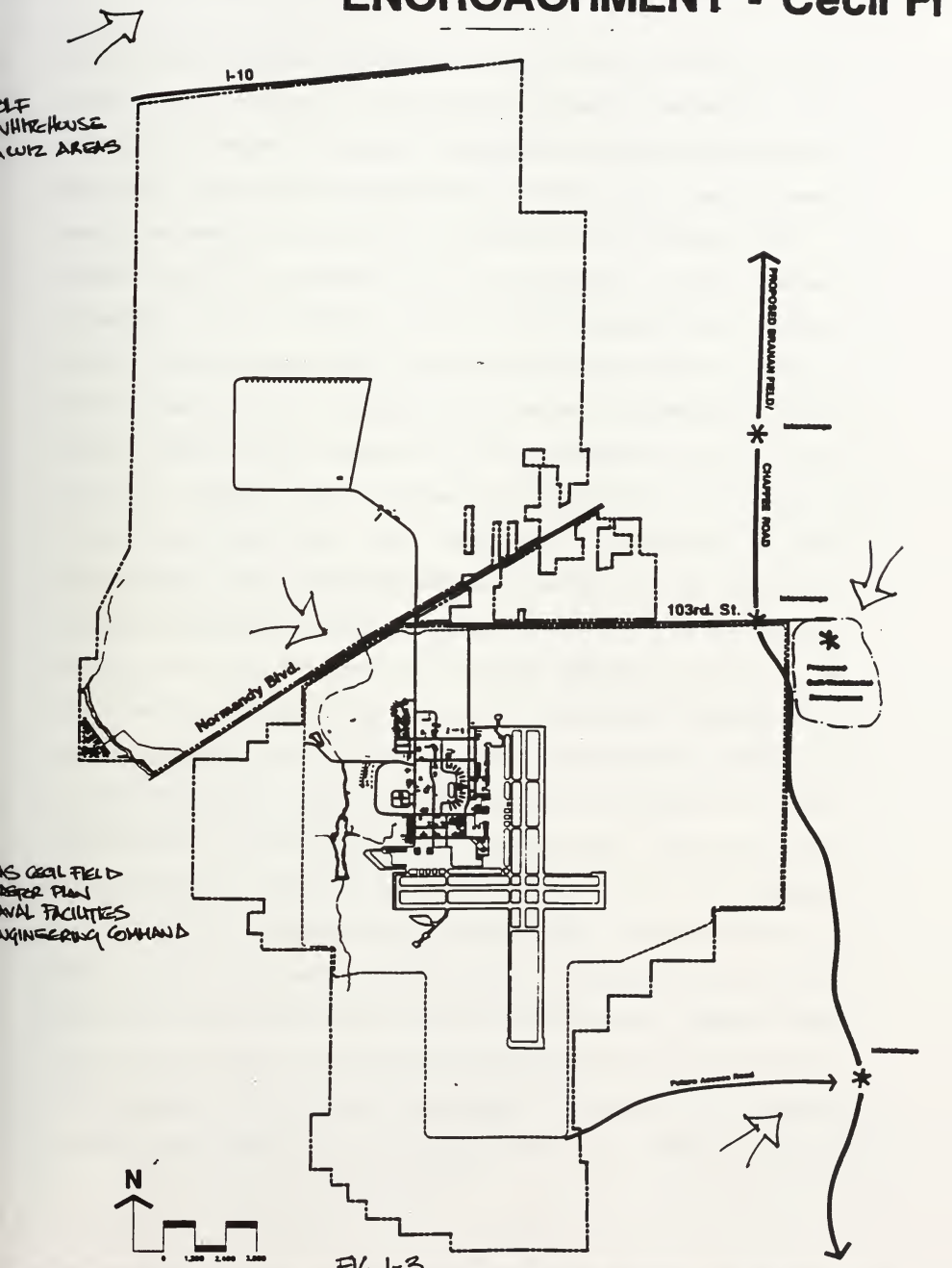
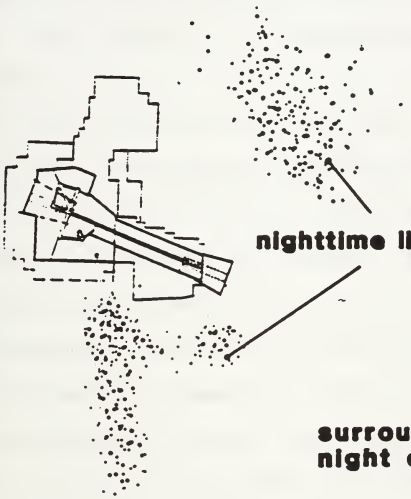


FIG 1-3

it in the Accident Potential Zone II, but is also in Noise Zone 2, with an Ldn of 65-75 which projects a moderate level of noise exposure. Second, a proposed roadway which would be part of a regional transportation system will also encroach upon the Eastern section of the station. The Branan Field Chafee road is proposed to run parallel to the Eastern boundary of the station, and at the intersection of 103rd Street. Its alignment will actually cut across Navy property. Third, the proposed roadway will have an interchange with an access road to the station on the southeastern part of the station. Fourth, the largest encroachment is that is inhibiting the Naval Air station is occurring at OLF Whitehouse. This encroachment has the ability to impact air operations compatibility and erodes the ability of the base to control its clear zones and accident potential zones. The field at Whitehouse is designated as an outlying landing field and is primarily for simulated night carrier deck landings by various aircraft. When this training was initiated, the land surrounding OLF Whitehouse was undeveloped. This made the field ideal for practice of night landings, due to the absence of artificial lighting which established a ground plane for the pilots. The result was a highly accurate simulation of nighttime, open sea, carrier landing conditions. Recently the land areas around OLF Whitehouse have experienced residential development, and are now inundated with artificial lighting during the nighttime hours (see figure 1-4). The result is

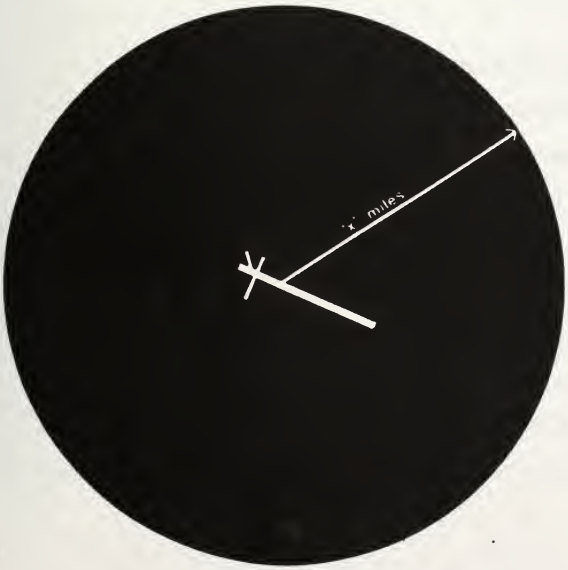
F WHITEHOUSE ENCROACHMENT

Existing OLF Conditions



Ideal OLF Conditions

SOURCE: NAS CECIL FIELD MASTER PLAN NAVAL FACILITIES ENGINEERING COMMAND



"x" miles is the area surrounding the OLF which should be free night light sources

FIG 1-4

that the facility is no longer ideally suited for its original purpose. This impedes on the operational mission of the Naval Air Station.

Air operations by the Navy also inflicts encroachment hazards to the surrounding community. First, is the excessive noise levels. The noise levels generated by aircraft activity is not only a nuisance but a safety hazard, as evident from the routine complaints to the station from people living in close proximity. Second the potential for aircraft accidents in the surrounding community areas is always a major hazard. Accidents such as the one that occurred on 28 May 1992 in Santa Fe River and O'leno State Park with a fatal crash of an FA-18, not only did loss of life occur but contamination and potential environmental damage to the crash area resulted from the spilled aircraft fuel.

Air Installation Compatible Use Program (ACUIZ)

The Department of Defense recognizes that its aircraft and airport noise problem is a serious one. Many thousands of people live in military airport environs where the noise level exceeds Ldn=75 db (Defense Dept., 1977). Federal agencies agree that this noise exposure level is unacceptable for residential land use and is a contributor to hearing loss. Many more live in airfield environs where the noise level exceeds Ldn=65 db, a level which the Department of Defense (DOD) agrees noise is clearly a social annoyance.

The birth of the Air Installation Compatible Use Zone (ACUIZ) Program was formally announced in 1973 in a DOD directive that outlined a program of objectives, priorities and actions to deal with the problem. The Navy ACUIZ program is contained in its consolidation manual of Naval Environmental Protection Instruction (OPNAVINST, 6240.3D). The policy is as follows:

1. Requires that each base study its noise problem, define accident potential zones and make actual measurements in connection with the development of noise contours.

2. Provides for purchases of land and easements, if necessary, to prevent rezoning.

3. Specifies constraints and guidance for types of operational controls that may be employed.

During a conference report on the Military Construction Authorization Bill (Comptroller General Report, 1975), congress gave guidance on funding of ACUIZ projects. First, DOD shall resolve the divergent problems. Second, DOD must ensure that every possible means to protect the integrity of military air bases by cooperation with local governments is exhausted before acquiring real estate or easements. Third, if funds are authorized, the monies are to be first directed towards alleviating encroachment in accident potential zones rather than in noise zones.

The Objectives of Naval Air Station Cecil Field ACUIZ program are to minimize conflicts between the base and

surrounding civilian community (ACUIZ program, 1988). They are as follows:

1. Reduce aircraft noise and safety hazards, both on and off the base.

2. Establish compatible land use plans for the base and community areas beside the ACUIZ footprint.

3. Establish a coordination plan with state and local offices.

The City of Jacksonville enacted the ACUIZ ordinance in March of 1985 for all airports located in the city limits (Ordinance, 91-761-410). The ACUIZ zones are composites of the Noise Zones and the Accident Potential Zones (APZ's). The APZ's are divided into three types along primary flight paths. The clear zone is an area adjacent to the runway end that poses a high potential for aircraft accidents. APZ-1 is the area beyond the clear zone which possesses a significant potential for accidents. APZ-2 is an area normally beyond APZ-1 which has a measurable potential for accidents. The current ACUIZ zones for NAS Cecil Field and OLF Whitehouse are illustrated in figures 1-5 and 1-6 respectively.

While various communities such as the City of Jacksonville have accepted the ACUIZ land-use guidelines and have begun to implement the ordinances, there are inherent weaknesses in exclusive reliance upon land use solutions(Defense Dept., 1977). They are as follows:

1. They are preventive rather than remedial. They may help to prevent further encroachment but do not help existing situations.

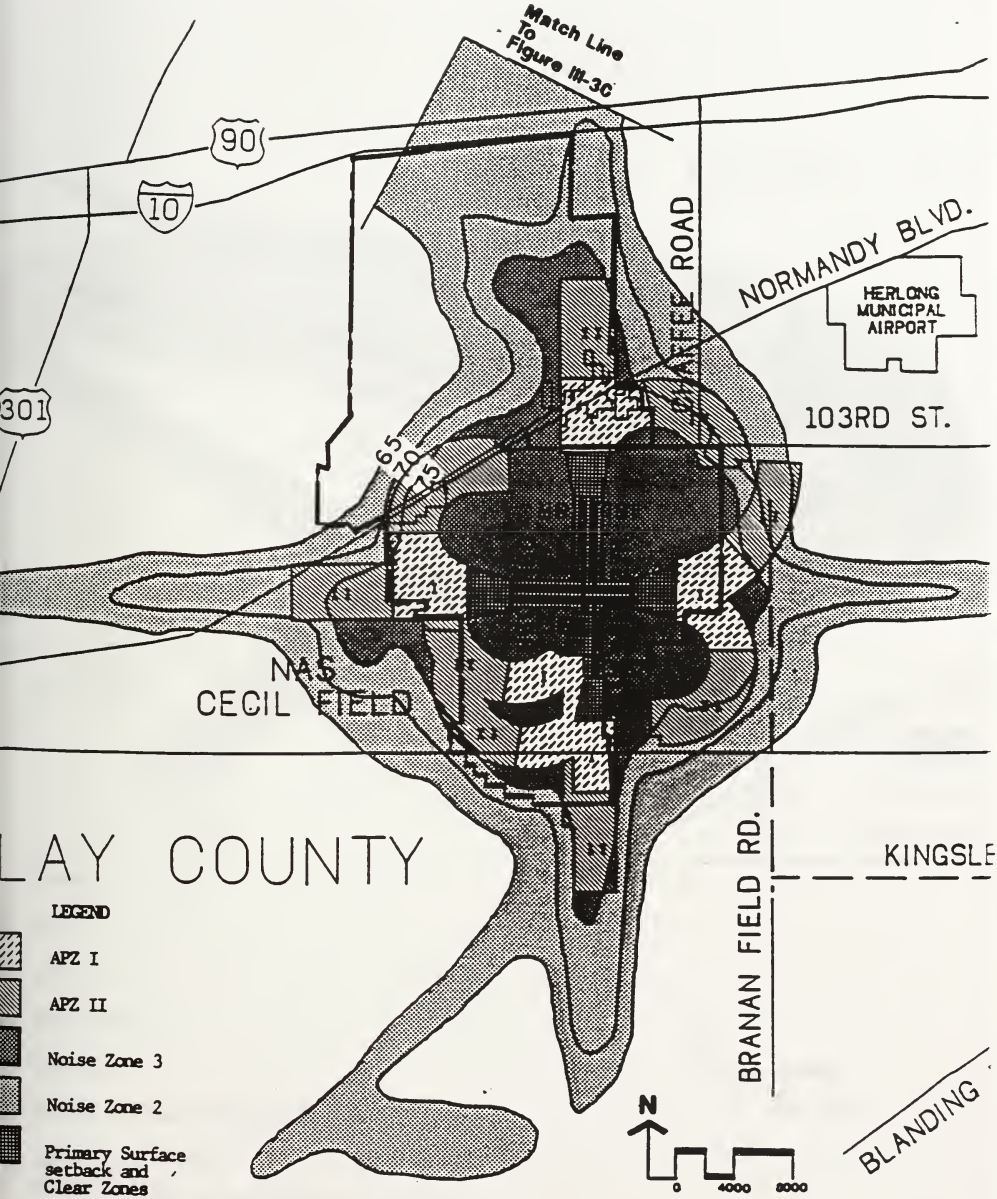
2. Communities are often unable to buy up properties as a noise abatement measure because of the large costs involved.

3. They can be nullified by city councils who, subject to intense pressure from developers, may change the zoning laws.

4. The military itself can introduce a noisier fleet of aircraft at a particular base.

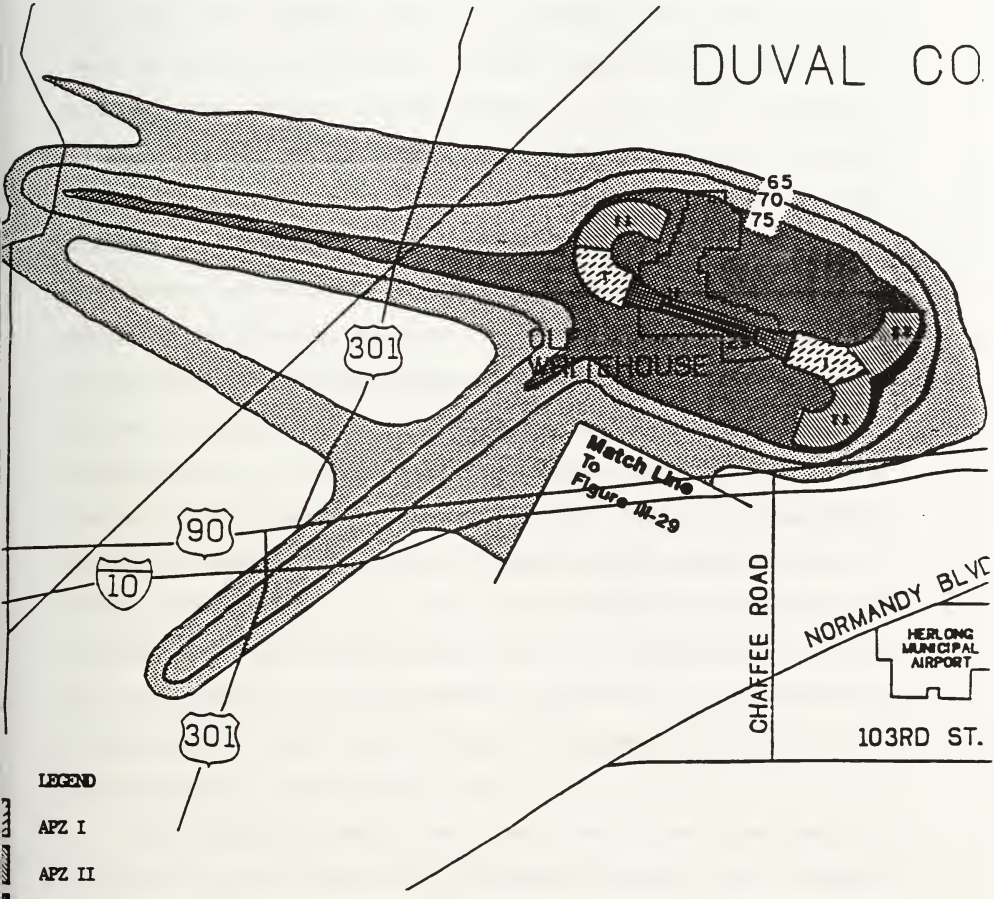
In spite of a solid ACUIZ planning in the City of Jacksonville, residential development is occurring in the lands surrounding OLF Whitehouse and the Naval Air Station.

AICUZ - Cecil Fie



CE: NAS CECIL FIELD
MASTER PLAN
NAVAL FACILITIES ENG. COMMAND FIG. 1-5

UZ - OLF Whitehouse



E: NAS CECIL FIELD
MASTER PLAN
NAVAL FACILITIES ENGINEERING COMMAND

FIG 1-6

ACUIZ Legal Aspects

The crucial recourse available to an adjacent landowner who feels that the full use and enjoyment of his property has been affected by military aircraft operations is an action against the United States based on the Fifth Amendment (Kittle, 1982). The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. Under the eminent domain powers of the federal government, the United States may condemn private property for public use with the subsequent payment of fair compensation. Inverse condemnation relates to the right of a private landowner to compel the United States to pay just compensation if his property has been taken by the United States without payment or compensation. Inverse condemnation suits relating to the federal government are brought under the Tucker Act (28 U.S.C.A., 1491). The Tucker Act allows suits against the United States based upon the Constitution or any Act of Congress, or any other regulation of an executive department or upon any express or implied contract with the United States (28 U.S.C.A., 1491).

The Supreme Court has dealt with the question of liability to an adjacent landowner arising from aircraft operations. In Griggs v. Allegheny County, the Supreme Court held that it was the owner of the airport rather than the airlines or the United States that must face potential liability (Griggs v. Allegheny County, 1962). The Supreme

Court held that the local airport operator could not hide behind the regulations of the federal government to avoid potential liability. The basis of the courts decision related to the position of the airport operator as a promoter.

In the case of City of Burbank v. Lockheed Air Terminal Inc., the Supreme Court noted that while the exercise of a local government's police power to regulate aircraft operations would be preempted, the authority that such a local entity might have as a landlord is not necessarily the same as it police power (City of Burbank v. Lockheed Air Terminal, 1962). The court appeared to be identifying some area of responsibility or authority which the airport operator has with regard to the control of air operations not running a foul of federal preemption upon which to justify liability ia a taking sense.

In the landmark case of U. S. v. Causby, the Supreme Court was faced with an allegation by adjacent landowner that the use of his property as a chicken farm was no longer possible. The court held that flights over private land do not amount to a taking unless they are so low and so frequent as to be a direct and immediate interference with the enjoyment and use of the land. The court stated the incidental damages were not enough but rather the damage must be substantial so as to amount to a taking (U.S. v. Causby, 1946). The court found liability, not as a result of noise intrusion, but as a result of physical intrusion due to the frequent overflights.

A significant case that relates to the ACUIZ program is the case of De Tom Enterprises, Inc. v. United States. This case dealt with land adjacent to March Air Force Base in Riverside, California. The plaintiff's property was sufficiently close to the air base that jet engine noise emanating from the base was audible much of the time. The plaintiff did not complain of the noise impact on his property. What the plaintiff alleged was that the noise was not unduly disturbing. The plaintiff sought a change in zoning that would have permitted him to develop his property for high density residential purposes. To permit such development, plaintiff had to secure the permission of the Riverside County Board of Supervisors after seeking approval of the County Planning Commission and the County Airports Land Use Commission. Plaintiff received approval of these agencies and petitioned the Board of Supervisors for a change in the Zoning. A hearing was held by the Board and the only opposing party was the Air Force representative. The Air Force informed the Board of the substantial Air Force financial investment in the base and the fear the encroachment by high density residential development would threaten the continued operation of the base. The Air Force recommended the land be used only for agricultural or industrial purposes. Based on the Air Force justification the Board denied the zoning application. The Court of Claims found the Board would have approved the zoning request had it not been for the Air Force's objection.

The Court of Claims found no constitutional taking (De Tom Enterprises, Inc., v. United States,1977). The Court of Claims further noted that no down zoning was involved and, in fact the market value of plaintiff's property had not changed from that prior to the Board's action and what it was thereafter. The Court of Claims upheld the Trial Judge's findings of no taking, stating that where there is no physical invasion of a physical damage to a claimant's property by the United States or its authorized agents, the Government cannot be held responsible for a constitutional taking unless the government's regulatory activity is so extensive or so intrusive as to amount to a taking under the principles of Pennsylvania Coal Co. v. Mahon, 1922).

Encroachment Management Strategies

The following strategies are presented as way to control growth around naval air installations, specifically Naval Air Station Cecil Filed.

1. Complete acquisition of surrounding properties.
2. Intensive easement control.
3. Transferable development rights program.
4. Establishment of a green belt.

The first is the ideal strategy. Total acquisition of all property surrounding the naval air base and all property in

noise zone-3 would give complete control over any type of present and future encroachment. A complete market and ownership analysis of all parcels surrounding the base must be conducted in order to affirm reasonable feasibility and acquisition costs. This strategy is astronomically expensive and is the reason communities are often unable to buy up properties as a growth abatement measure. A combination of both the City of Jacksonville and the Navy may be possible. The naval air station currently has a Military Construction Project P-882 Land Acquisition that proposes the acquisition of 8,000 acres of land in noise zone-3 at OLf Whitehouse, which includes accident potential zone-1 and zone-2. However, the project is unprogrammed and unfunded. With the current reduction of national military funding, this option may be difficult to purse if funds are unavailable.

The second strategy is to establish an assertive and extensive easement control program. Although the naval air station presently has a substantial amount of easement rights, it must control all easement rights in all zoning classifications surrounding the base. Cooperation from both city officials and property owners that are willing to sell easement rights is crucial. Again an identification of types of parcels and ownership must first be established. Although less expensive than acquisition, funds must still be provided to buy the easement rights. Options within this strategy could involve the City of Jacksonville to acquire some of the

easement rights.

The third strategy is the establishment of a transferable development rights' program. Voluntary and mandatory TDR programs have been implemented in other parts of Florida with successful preservation of open spaces and protection of environmental areas. Complete cooperation from city officials must be ascertained to establish the sending and receiving areas. The advantage of a TDR program is that it does not require substantial amounts of federal or local government funds. This type of program would be the most effective especially if it is market driven. The city of Jacksonville would potentially benefit from the receiving site development. In the establishment of most TDR programs the conflicts between city and county takes its toll of new TDR programs. The city of Jacksonville and the County of Duval are one in the same.

The fourth strategy is establishing a green belt around the naval base. All strategies identified or a combination could eventually establish this as a long term goal. Alternatives within this strategy are numerous. One option is to recruit the city of Jacksonville or other state and federal agencies as the Florida Game and Fresh Water Fish Commission to potentially look at the creation of open spaces around the base and designate them undisturbed areas. Coalitions with other agencies with similar interest can yield potential long range growth management controls.

CHAPTER 3

SUCCESSFUL TDR PROGRAMS

Montgomery County, MD

Montgomery County's TDR program is one of the most successful TDR programs in the nation for preserving agricultural land. The strong and concerted local government efforts, combined with development pressures gave rise to a mix of private and public forces that has sustained the success of their TDR program. The goal of the Montgomery County program is to preserve the County's prime agricultural areas and other rural open spaces in the face of strong suburban growth pressures in the Washington metropolitan area.In 1980 the County adopted the Functional Master Plan for Preservation of Agricultural and Rural Open Spaces. The TDR program was then adopted through an amendment of Montgomery County's zoning ordinance (Warman, 1992). Upon adopting the TDR program, the County amended its zoning ordinance to classify the lands in the Agricultural Reserve as the "Rural Density Transfer Zone", and downzoned those lands to a maximum density of one dwelling unit per 25 acres.

The TDR "sending area" in Montgomery County is the Rural Density Transfer Zone. Landowners are allocated one TDR for

every five acres of land, minus one TDR for each dwelling unit already existing on the property (Pizor, 1986). The TDRs can be applied only to designated receiving areas within other zoning districts in other parts of the county. TDRs can be used only for residential development. Each TDR is worth one additional dwelling unit above the base density allowed in the zoning district. Without TDRs, development can only occur up to the base density set forth in the zoning ordinance. Receiving areas for TDRs were originally designated on a case-by-case basis throughout the county's Area Master Plans. Having land designated as a TDR receiving area required an amendment to the applicable Area Master Plan, which would then specify an optional bonus density available to developers who used TDRs on identified properties.

The success of Montgomery County's TDR program can be attributed to the following critical conditions for a workable program (Roddewig, 1987):

1. Sufficient restrictions on sending areas to give rise to TDR sales.

2. Designation of receiving sites with infrastructure capability and sufficient development demand to make additional density increases attractive to developers.

3. Recognition of the economic and financial conditions that underpin a TDR market and determine the value of TDRs to both sellers and buyers.

4. A TDR program design that is simple and understandable and that does not require complex approvals.

5.Commitment to an educational effort to inform landowners, developers, realtors, and attorneys about the program.

New Jersey Pinelands

New Jersey's Pinelands Development Credit (PDC) began in 1981 with a high level of success. The Pinelands consist of one million acres of forests, farms, and cedar swamps located between Philadelphia and Atlantic City. Except for encroaching urbanization at the boundaries of the Pinelands spreading outward from Atlantic City and metropolitan Philadelphia, development pressure in the Pinelands has been minimal. The principal thrust is to restrict residential development through strict land-use controls. In order to protect this pristine environment, Congress established the Pinelands National Reserve in 1987. In the same year, the New Jersey legislature passed the Pinelands Protection Act, which endorsed regional planning for the area and suggested using the transferable development rights concept as a way to accommodate development in the Pinelands and to protect the Pineland's agricultural and environmental resources. The State then adopted the Comprehensive Management Plan (CMP) for the Pinelands in 1980.

The Pinelands Development Credit (PDC) program is the key element of the CMP. The PDCs are TDRs intended to redirect development from sensitive areas to areas that can better

accommodate growth and to allowed landowners in the most restricted areas to share in the benefits of increased land values in the receiving areas (Roddewig, 1987). The "receiving" areas for PDCs consisted of the "Regional Growth Areas" designated in the CMP, usually areas where development has already occurred. The "sending" areas consisted of land in "Agricultural Production Areas" and "Preservation Areas".

Although the PDC is the largest and most complex transfer of development rights program ever attempted, the Pinelands Planning Commission staff concluded that the program would have been more effective if the following elements had been incorporated (Roddewig, 1987):

1. Simplified the mathematics of the program. A TDR program is difficult enough to communicate to the public without awkward units of measurement.

2. Launched the program after achieving local zoning complaints. Unrealistic expectations of active trade in PDCs were raised when the commission announced the program. In reality the framework was not in place, and developer uncertainty delayed the use of the rights.

3. Initiated a public education effort to sell the program. The concept is a complex one, and landowners, developers, and realtors need information about the program to be stimulated to use it.

4. Establish a Pinelands Development Credit Bank at the outset. Demonstrate that the government is behind the program, it fosters credibility and confidence.

Florida East Everglades

Metropolitan Dade County, adopted a "Severable Use Rights" (SUR) Ordinance in 1981, which put into place a TDR program to protect the resources of the East Everglades. The SUR program is designed to transfer development rights form the environmentally sensitive East Everglades region which is located within the County to lands located within the urban service boundary. The principal goal of the County's TDR program is to protect the aquifer from encroaching suburban residential development. This, coupled with the immense public costs that would be required to lay out special infrastructure throughout the wet areas.

In 1981 Dade County passed two ordinances in to control growth in and to preserve the East Everglades, the Zoning Overlay Ordinance and the Severable Rights Ordinance. The Zoning Overlay Ordinance cut the base density for the entire area to one dwelling unit per 40 acres, with no grandfathering of building rights for vacant parcels (prior to the ordinance it was one dwelling unit per five acres). The SUR ordinance provided for the transfer of SURs from parcels in the East Everglades to other, developable locations in unincorporated Dade County. The "receiving" area consists of all developable land in unincorporated Dade County which lies within the "urban development boundary" as outlined in the Comprehensive Master Plan (Sur Ordinance). SURs can be redeemed in the

designated receiving in exchange for density bonuses for residential, commercial, or industrial development. Once the development rights are severed from the sending parcel, the landowner retains all other rights not previously sold, and can use the land for agricultural and/or recreational purposes, provided that the use meets all applicable standards in the Zoning Overly Ordinance.

Although the SUR Program has been successful, several factors have undermined the incentives of the program (Siemons, 1982).

1. Political turmoil in local government created a difficult formulation and implementation of the program. The adoption of the program occurred in a turbulent local politics of late 1970's and early 1980's.

2. Lack of educational promotion to all potential participants slowed the progress of the program. The county did not conduct any educational efforts to promote the program, regarding the use of SURs. Many people still may not understand the, restrictions, benefits, or mechanics of the program.

3. Liberal rezoning from the local government has inhibited the program. Developers in Dade County have little incentive to purchase SURs. Developers are generally able to achieve the densities they want by getting the County to rezone property. This has undermined the potential effectiveness of the SUR program.

CHAPTER 4

FORMULATION OF TDR ELEMENTS

It is clear that TDR programs are capable of preserving large areas of open space with a minimum of public expenditure. Where a market exists for the rights, and where the interest of all the actors have been recognized and addresses, a TDR program can harness private market operations to attain a public purpose. A successfully operating TDR program must have at least the following essential elements (Pizor, 1986):

A. Preservation (sending)and receiving districts.

b. Owners of land in preservation districts that can sell their foregone density.

C. The foregone density is easily transferable so that it can be used to develop at higher densities in a suitable designated receiving District.

The following propositions are offered for a successful TDR program that is measured by market activity in development rights. (see appendix for simplified list of propositions)

A. The receiving districts must be well sited for immediate development. Necessary infrastructure must be in

place, and the receiving sites should be in the areas that, from a market perspective, are most suitable for development. The purchase of a TDR certificate must increase densities sufficiently that use of the rights becomes financially attractive for developers.

b. Equitable allocation of development rights linked to the relative reasonable investment backed development expectations of landowners (Siemon, 1982).

C. Thoroughly analyze the development opportunities and profits at various densities. Analyze potential sending sites, and balance environmental goals against economic realities (Roddewig, 1987).

D. Designation of substantially more receiver sites than allocated transferable development rights (Siemon, 1992).

E. The regulatory and permitting process must have sufficient integrity to assure developers that if they pay for rights, they will be able to build to the promised higher densities.

F. No or extremely limited governmental involvement in the sale and purchase or transfer of development rights (Siemon, 1992).

G. TDR will preserve lands only where prohibitions on development are comprehensive and mandatory. In the preservation area, permitted density must be kept low enough to adequately provide for preservation of the desired land use.

H. Make a critical choice between a voluntary or mandatory program and between a totally private TDR marketplace or a quasi-public market assisted by a TDR bank (Roddewig, 1987)

I. In a well designed TDR program, a bank to purchase rights is not needed to protect farmland, but it may help some owners stay in business. Such a bank can serve as a buyer of last resort for development rights (an insurance to owners by providing a market for rights even under adverse circumstances).

J. Identification of all the actors in the real estate marketplace affected by the TDR program and the economic motivation of each actor (Roddewig, 1987)

K. Having someone act as an information source and problem solver can head off problems as a TDR program is implemented. TDR represents a substantial change in the traditional way of doing business in the real estate market.

The presence of a facilitator (the Montgomery County planning staff) during the first transactions under a new TDR program appears to have smoothed many difficulties. The absence of such an entity in the Pinelands and Florida East Everglades led to some delay, misinformation, and uncertainty.

L. Programs that are structured clearly and apply the TDR concept in a simple, straightforward way will operate better than more elaborate ones. Reducing regulatory complexity improves developers' confidence that they will be able to use the rights profitably, that in turn increases the probability that the rights will be used.

M. Broad community commitment to the use of TDRs and a refusal of the governing body to grant increases in density in receiver areas without the use of TDRs (Florida East Everglades).

N. Programs that incorporate the self interest of all actors (landowners, facilitators, developers, etc.) are more likely to result in market transfers. The TDR program must be designed to meet the needs of those in the development chain, rather than the needs of local government officials (planners).

A practical transfer of development rights program

involves far more than simply adopting a TDR ordinance, it must be prepared not only to develop a functioning program but also to educate potential users.

CHAPTER 5

TDR MODEL FOR NAS CECIL FIELD

Besides land acquisition which is extremely expensive, a TDR Program can constitutionally achieve the protection of sensitive resources and mitigate against the windfall and wipeouts of public land use regulations. As urban sprawl continues to increase so does public land use planning and growth management. The need for strict resource protection and mitigation strategies that address taking issues, warrant innovative ideas like TDRs. Sensitive resources can be open space or rural farmland around military installations. When the protection of open spaces is combined with ACUIZ regulations the protection of air installations becomes the overall community benefit. By protecting open space around military installations, local communities can minimize encroachment conflicts and manage growth. The following TDR process is presented as a general model for Naval Air Station Cecil Field (a simplified model is contained in the appendix).

TDR Model Elements

1. Analyze regulatory constraints.
2. Identification of Key Participants.
3. Choice between voluntary or mandatory program.
4. Identification of sending site(s).
5. Identification of receiving site(s).
6. Identification of facilitators.
7. Simplified process.
8. Promotion and education.

1. Analyze Regulatory Constraints

On a statutory level care must be taken to follow the specific requirements of state enabling legislation concerning the purpose of a TDR Program. The State of Florida authorizes local communities to adopt zoning ordinances. Although the City of Jacksonville has a ACUIZ ordinance it presently does not have a TDR ordinance. In order for a TDR Program to be successful it must be in accordance with the local comprehensive plan and the local government must adopt it, as a city ordinance. The only mention of TDRs in the City of Jacksonville's comprehensive plan is in the Future Land Use Element, under the objective of Development in the Context of the Natural Environment (City of Jacksonville Comprehensive Plan, 1990). The policy is to develop a comprehensive program

through the planning department, which may include transfer development rights, as a means of reducing densities and clustering development intensity away from environmentally sensitive areas by 1995. Although stronger legislation is needed to create a TDR ordinance, the essence of inception is in accordance with the comprehensive plan.

On a local level the establishment of a model must further look at regulations concerned with zoning, allowable densities, environmental protection efforts and legal constraints specific to both density and receiving areas. The local comprehensive plan will address most of these potential constraints. The Future Land Use Element of Jacksonville's Comprehensive Plan 2010 contains a substantial amount of information. The Plan 2010 shows where present and future zoning, higher density, capital improvements, infrastructure capability and future development potential will be targeted. This type of information is invaluable ia a local regulatory analysis.

The most important aspect of establishing a TDR Program is to determine the extent and potential of local government commitment. A TDR Program cannot be established without the commitment from local government. A TDR Program must first become an ordinance and support from local government must be attained and maintained. As earlier discussed in Florida's East Everglades, political turmoil and non commitment from local officials hindered the TDR's success. The City of

Jacksonville has the advantage of a consolidated government (city and county), which can streamline concerted efforts to establish a TDR Program. The city planning staff, in several occasions has presented the TDR concept to the City Council and is continuing its efforts to sell the program (Cannon, 1993). Efforts to educate policy makers must be continued in order to obtain full commitment.

2. Identification of Key Participants

The identification of key participants is an essential element in designing a TDR program. Six key participants must be analyzed. Each participants needs, aspirations and expectations must be looked at in detail in order to gain the insight necessary to develop a successful TDR program.

First, the developer(s) must be identified. The type of development characteristic of the designated receiving zone must be carefully understood. Developers are constantly hunting for opportunities and comparing the cost and profit in one location to those in another. Profit is the developer's main incentive to develop and should be highly considered in the initial review of a TDR program. There can be no transfer of development rights without developers anxious to buy and use development rights.

Second, the owners of the sending areas must be identified. Their land owning patterns and motivations must be understood before an effective TDR program can be created.

Accurate information about the ownership of land to be protected is essential. Landowners in sending areas must be willing to participate in a TDR program in order to ensure grass root commitment.

Third, local government officials must be identified. Planners and other city officials such as zoning and property taxation personnel must be committed to the TDR program. The planning department as the pivotal office must work together from the beginning to know community sentiment on the TDR issues.

Fourth, military officials must be identified. The commanding officer of the military installation is the key participant. The military installation's planning department or higher planning offices contain the key planners to deal with all issues in establishing a TDR program. In the Navy a regional public works center and a regional field office of the Naval Facilities Engineering Command have other key participants. Most military air installations have a designated ACUIZ officer. The ACUIZ officer must be involved early in the creation of the sending areas in order to ensure that the sending areas are also in accordance with the ACUIZ zones.

Fifth, mortgage lenders on the property, both in the protected zone and in the receiving areas must be identified. One of the essential TDR questions in any community is how the sale of development rights from a piece of farmland will

affect the mortgage holder's interest in the property (Roddewig, 1987). If it will reduce the market value of the property below the outstanding mortgage principle, the mortgage lender must be consulted. In receiving areas the mortgage lender plays a significant role. Will the lender treat the acquisition of development rights' the same as the acquisition of a fee interest in land or treated as other types of real estate transactions. Mortgage lenders must be identified early in the inception of a TDR program to determine the potential patterns of property transfers and how they affect the general property owner.

Sixth, real estate brokers and the titled companies are also key participants. Real estate brokers will be helpful in negotiating TDR transactions and matching buyers and sellers. Title companies will work with mortgage lenders and owners of both sending and receiving areas.

3. Choice Between a Voluntary or Mandatory Program

The choice between a voluntary or mandatory TDR program will depend on the political fabric of the community. If a strong political support for the concept exist to protect the land resource, a mandatory TDR program may be enacted over the objection of owners of the resource. If the opposition is very strong, a voluntary TDR program may be the only solution. The essential real estate analysis is no different, whether the TDR program is a voluntary or mandatory program. In a

practical perspective there is no absolute voluntary program, local legislation must be enacted in order to preserve lands where prohibitions on the development are comprehensive and mandatory. Historically, protection of land resources have come about through strict mandatory government legislation. From this perspective a TDR program in its inception stage must be mandatory, backed by local reasonable regulations. Once the program has been created within a mandatory framework, the dale of development rights should have limited local government involvement. If due diligence is performed in the creation of the program with reasonable investment backed by expectations, the market of supply and demand in the sale of development rights should naturally dominate. In essence a TDR program must begin within a mandatory framework and be implemented through a private TDR marketplace. The TDR program for a military air installation should have a mandatory framework and should be implemented through the private market.

4. Identification of Sending site(s)

Identifying the area to be protected may be relatively simple. In this model the sending site is all rural farmland or open space that is in ACUIZ zone 3, predominantly around the perimeter of the noise and accident potential areas of the air installation runways. The objective of this model is to protect surrounding lands form further development by creating

an incentive that will protect the land by compensating the owners for the difference between the value of their property as a resource and its speculative value for development. Once the difference has been established by a thorough market analysis, it is compared with the market analysis form the receiving sites and the price that developers would pay for additional density. This final difference in value is the value of a development right.

5. Identification of Receiving Site(s)

The essential prerequisite to a successful TDR program is a thorough understanding of the development process in potential receiving areas. It is essential to know the general patterns of development in the receiving areas. Richard Roddewig quantifies that the size of the receiving area or the number of sites specified as TDR receiving parcels must be carefully determined on the basis of the following factors (Roddewig, 1987):

1. Development approval. The receiving sites or areas must have the appropriate planning approval or zoning classification to allow development at the higher density authorized when a TDR transaction occurs.

2. Availability of infrastructure. The timing and availability of water, sewer, electrical and gas lines, and roads must be known so that development will indeed occur in the designated receiving sites.

3. Density absorption rate. Past development activity of

the density proposal for participation in the TDR program must be clearly understood in order to know the likely number of parcels to be developed at the higher density, and the number of additional dwelling units likely to be added over time as the TDR program develops.

4. Relationship of TDRs created. The receiving sites must be large enough to reasonably absorb the TDRs to be created. To ensure the maximum value of the TDRs created in the sending area, there should be a substantially larger receiving sites (as measured either in geographic area or in potential increase in density) that one-to-one transfer of density from the protected sending site might otherwise require. a receiving area larger than necessary would stimulate more demand for TDRs as result in a larger number of developers interested in acquiring them. (Chapter 7 will present additional criteria for the selection of TDR receiving areas).

6. Identification of Facilitators

Facilitators unlike key participants are those individuals that directly attribute to the success of a TDR program. In most successful programs the planning agencies have filled the role of the facilitator. In Maryland the county planning staff served as an informal broker for the first transactions. They provided the names of people who were interested in buying or selling rights, they met with attorneys and real estate brokers to devise model listing agreements and titled search procedures and to resolve

questions about the transfer and recording of rights. Many developers and landowners praised the thoroughness of and the help provided by the staff in responding to stat-up questions. In the Pinelands, on the other hand, no one was designated to help implement the TDR program element of the plan. As a result, many developers were reluctant to attempt to use development rights, and implementation of the program was consequently slower that in Montgomery County (Pizor, 1986).

In order to ensure a successful TDR program, key individuals from both local planning and military installation planning departments must act as facilitators. In addition the ACUIZ officer from the military installation can provide valuable service to key participants as well as representatives form the key developers and real estate brokers. The purpose of a facilitator is to gap the communication weaknesses and provide the insight necessary to implement a TDR program.

7. Simplified Process

A TDR program as an innovative method of controlling growth by protecting land resources can be extremely complex. Although the concept is simple to understand, the mechanics are extremely complicated. The general participant unlike the key participant will not have the insight, knowledge or training necessary to completely understand the program. The landowners and people generally affected by a TDR program need

to have a simple process for understanding and implementing the program. If the general public does not understand the program the risk of the TDR program may increase. Simplicity is a critical element that must be incorporated in to a TDR program. The following factors can help a TDR program become understandable:

1 Streamlining the TDR approval process.

2 Simple, understandable formula for valuation and development rights allocation.

3 Simple, straight forward (as of right) development review process for the use of transferred rights.

4.User friendly information or guide for the use of TDRs.

8. Promotion and Education

The success of a TDR program will increase if a follow-up effort to promote the program and educate the community on its operations is created. The TDR program must be promoted by publicizing the program through a source media campaign. It may be advantages to have an individual from a planning staff assigned exclusively for the TDR education and implementation. The need for a matchmaker between willing TDR sellers and willing TDR buyers may be necessary in order to create or stimulate the market.

CHAPTER 6

SENDING AREA

The City of Jacksonville is one of the largest municipalities in the country. When the ACUIZ Ordinance was adopted ACUIZ areas were created for all seven airports. The following table indicates the size of the ACUIZ areas in comparison to each airport and to the City of Jacksonville (ACUIZ Ordinance, 1985).

City of Jacksonville ACUIZ Area

	Square miles	Square Area	% of city
Total City Land Area	833.76	533,606.4	100.00
NAS Cecil Field and OLF Whitehouse	93.8	60,009.6	11.25
NAS Jacksonville	13.2	8,440.0	1.58
NAS Mayport	2.9	1,882.5	.35
Jacksonville International	16.2	10,376.6	1.95
Herlong Field Municipal	.4	229.6	.05
Craig Municipal	2.0	1,262.6	.24
Total ACUIZ	**128.5**	**82,209.1**	**15.81**

From the table it is clear that the ACUIZ Ordinance has impacted 15.81 of the City's land area. Although State Statue 333.02 and the ACUIZ Ordinance restricts incompatible development, development pressures are resulting throughout

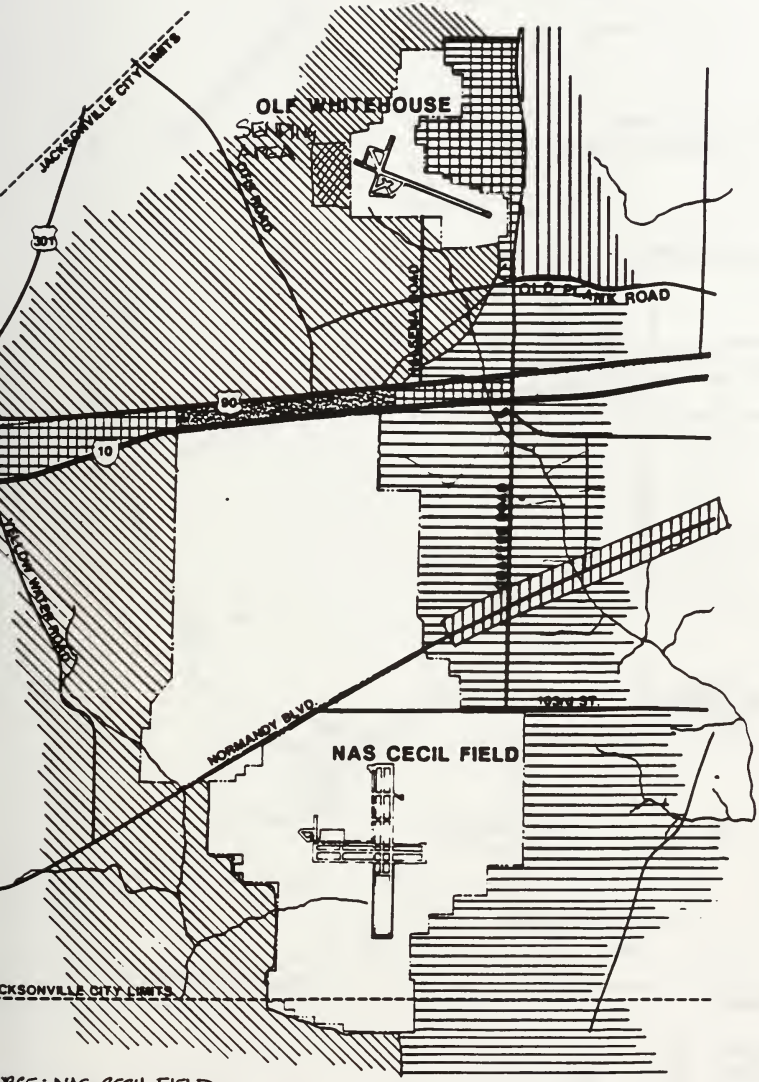
the ACUIZ zones, as evident form the PUD located Northeast of OLF Whitehouse. An inherent weakness of an ordinance such as the ACUIZ is that it can be nullified by city councils who subject to intense pressures form the development community, may permit incompatible land uses.

For a totally effective TDR Program that protects all air installations from encroachment conflicts. all ACUIZ zones must be designated as the sending areas. Most of the ACUIZ zones are already developed. For purposes of this research only a specific site located adjacent to OLF Whitehouse will be designated as the sending area.

The sending area for this research will be the area located to the West of the Out Lying Field (OLF) Whitehouse.An area of approximately 500 acres. The designated area is also located in ACUIZ zone 3. The area as outlined in figures 1-7 and 1-8 is presently zoned for open rural (agricultural). The presence of a PUD is evidence that one of the inherent weaknesses of a zoning ordinance, specifically the ACUIZ ordinance allows zoning to be changed by development pressures. The very reason for the creation of a TDR program is to prevent further development in all ACUIZ zones and all open farmland around the perimeter of the air installation.. Ideally all ACUIZ zones in both air fields at Naval Air Station Cecil Field should be designated as the sending area.

For purposes of this research, only the area outlined in figures 1-8 and 1-9 will be looked at. The TDR process as outlined in the previous chapter is the essence of this research. A complete market analysis of the sending area will not be performed under this research. It must be emphasized that in order to reasonably establish both a sending site and receiving sites a full market analysis must be conducted.

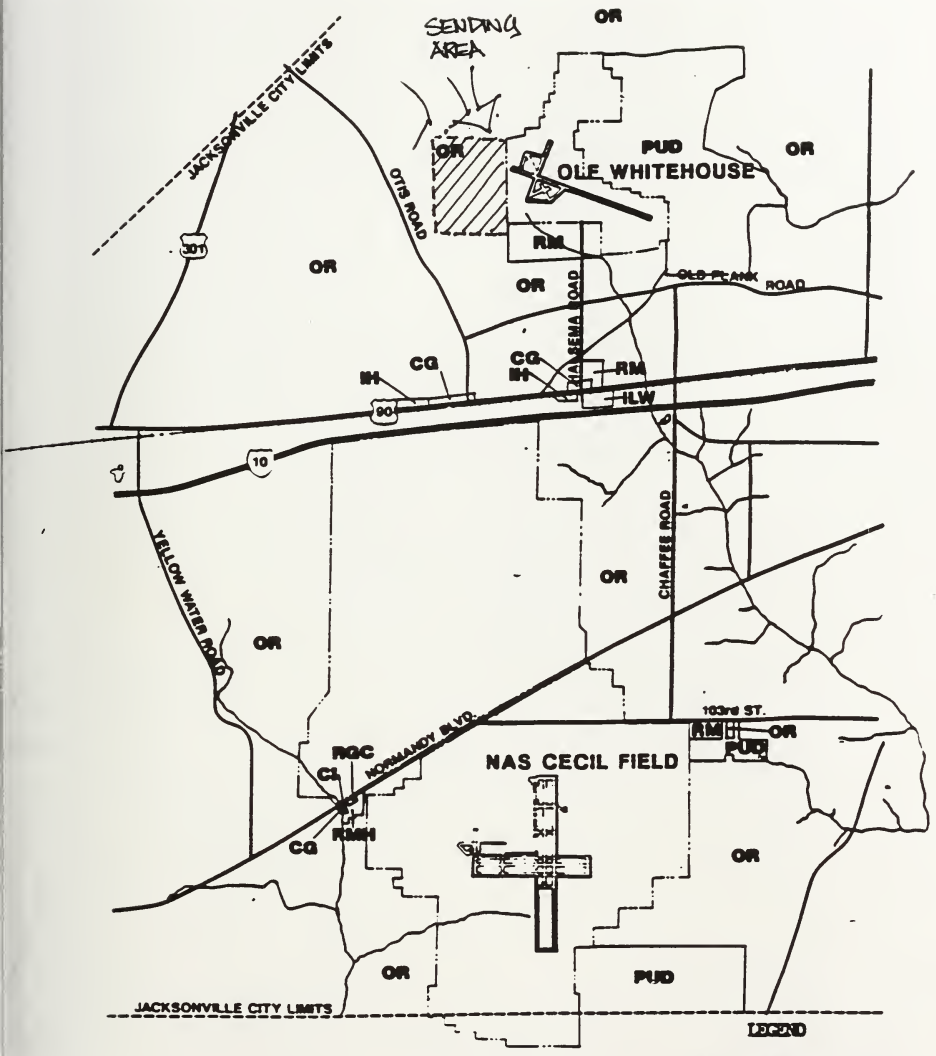
AREA LAND US



RCE: NAS CECIL FIELD
MASTER PLAN
NAVAL FACILITIES ENGINEERING COMMAND

FIG 1-7

EA ZONING

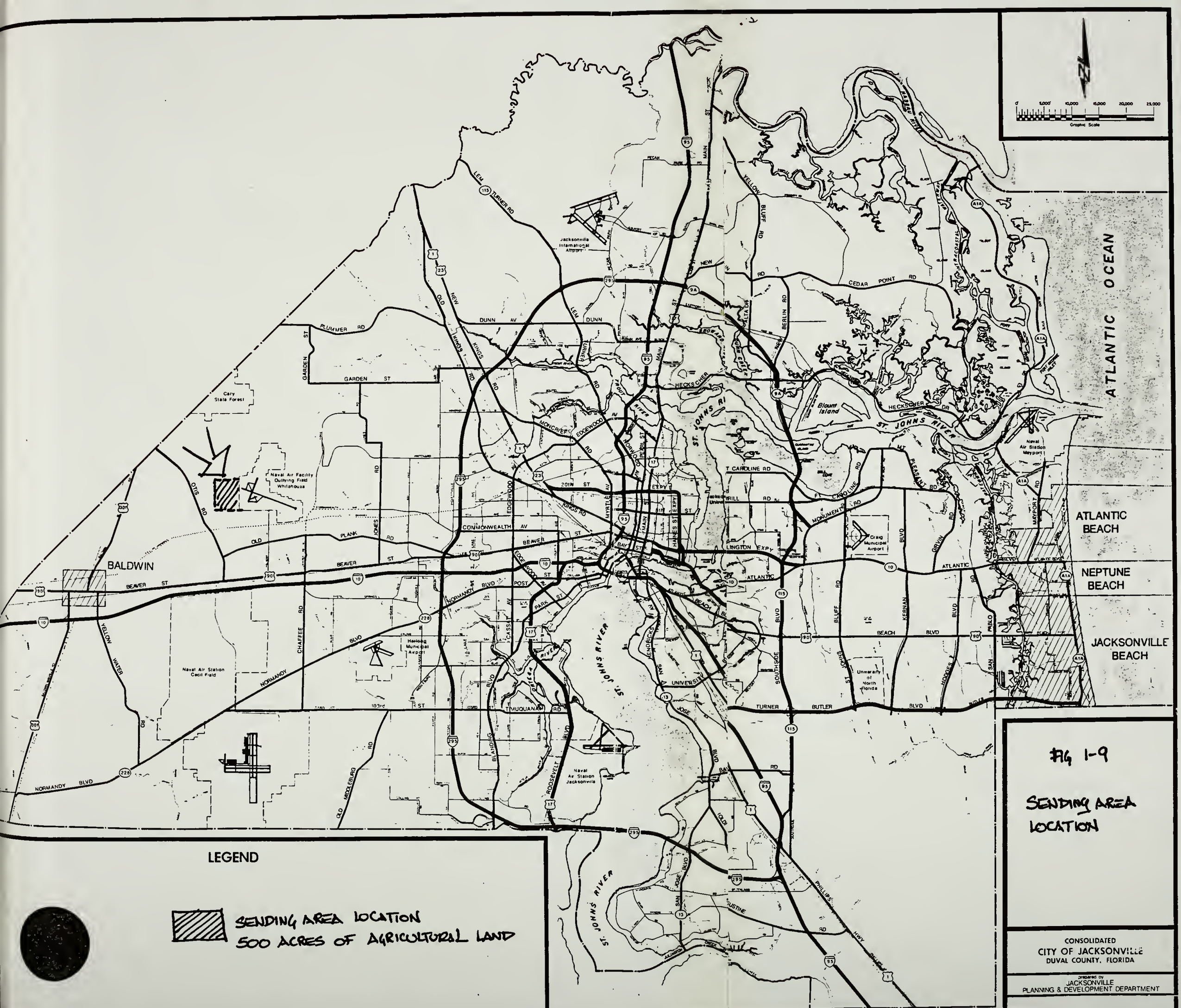


OURCE: NAS CECIL FIELD
MASTER PLAN
NAVAL FACILITIES ENGINEERING COMMAND

N

OR	Open Rural
CG	Commercial General
PUD	Planned Unit Development
RGC	Residential, General
RM	Residential, Mobile Home
IH	Industrial, Heavy
ILW	Industrial, Light Warehousi
	SENDING AREA 500 ACRES

FIG. 1-8


ATLANTIC OCEAN
ATLANTIC BEACH
NEPTUNE BEACH
JACKSONVILLE BEACH
BALDWIN
Jacksonville International Airport
Cary State Forest
Naval Air Facility Outlying Field Whitehouse
Naval Air Station Cecil Field
Herlong Municipal Airport
Naval Air Station Jacksonville
Craig Municipal Airport
University of North Florida
Naval Air Station Mayport
Blount Island
ST. JOHNS RIVER
TRIBUTARY
TRIBUTARY
TRIBUTARY

CHAPTER 7

RECEIVING SITES

In identifying the receiving sites it is important to understand the development process and to know the general pattern of development. The City of Jacksonville, due to its enormous land size has a multitude of potential receiving sites. In order to select receiving site, criteria must first be established. Based on the propositions discussed in Chapter 4 and the TDR model in Chapter 5, the following criteria for selection are presented.

1. In accordance with the comprehensive plan.
2. Reasonable rate of return for developers.
3. Sustainability
4. Compatible zoning with adjacent areas.
5. Special neighborhood districts.
6. Mortgage lenders.
7. Amenity(s).

1.In accordance with the comprehensive plan.

Receiving sites that conform with the comprehensive plan have the best potential to receive development approval. The

Comprehensive Plan 2010 (Future Use Element), designates potential areas for increased development. With the creation of a TDR Ordinance, the receiving sites can be in accordance with the comprehensive plan. From a legal perspective, as long as the TDR regulation is reasonable and protects the interest of the public, the risk for legal conflicts is reduced.

2. Reasonable rate of return for developers

To attract developers to a potential site, the expected rate of return on the investment must yield at least 15%, equivalent to the standard in the development community. Developers must be guaranteed that their investment will be backed by a reasonable expectation. Without the developers to buy the rights a TDR program will not be implemented.

3. Sustainability

Receiving sites must be able to sustain the increased densities. The use of existing infrastructure, schools, and public services will help to reduce development costs. With present growth management regulations the use of existing infrastructure will increase the development approval process. Receiving sites must protect existing natural environments and maximize present ecosystems.

4. Compatible Zoning

Receiving sites must consider compatible zoning with

adjacent areas. Higher density receiving areas may be considered as NIMBYs (not in my back yard). The value of properties surrounding the receiving areas must not be diminished. The economic analysis for the receiving sites must consider compatible land uses in the surrounding areas.

5. Special neighborhood districts.

In the context of re-gentrification, blighted areas of the city that can benefit form increased densities will yield mutual benefits for both the community and the developer. Areas such a Springfield Neighborhood District located to the north of the central business district contain excellent local government approval. Downtown areas with good infrastructure capability are excellent development opportunities for the use of transferable development rights.

6. Mortgage lenders.

Receiving areas that contain mortgage lenders activity can promote the receiving areas by financing the purchase of rights from the sending site. Mortgage lenders that are physically located within the receiving area will have an incentive to support a TDR program.

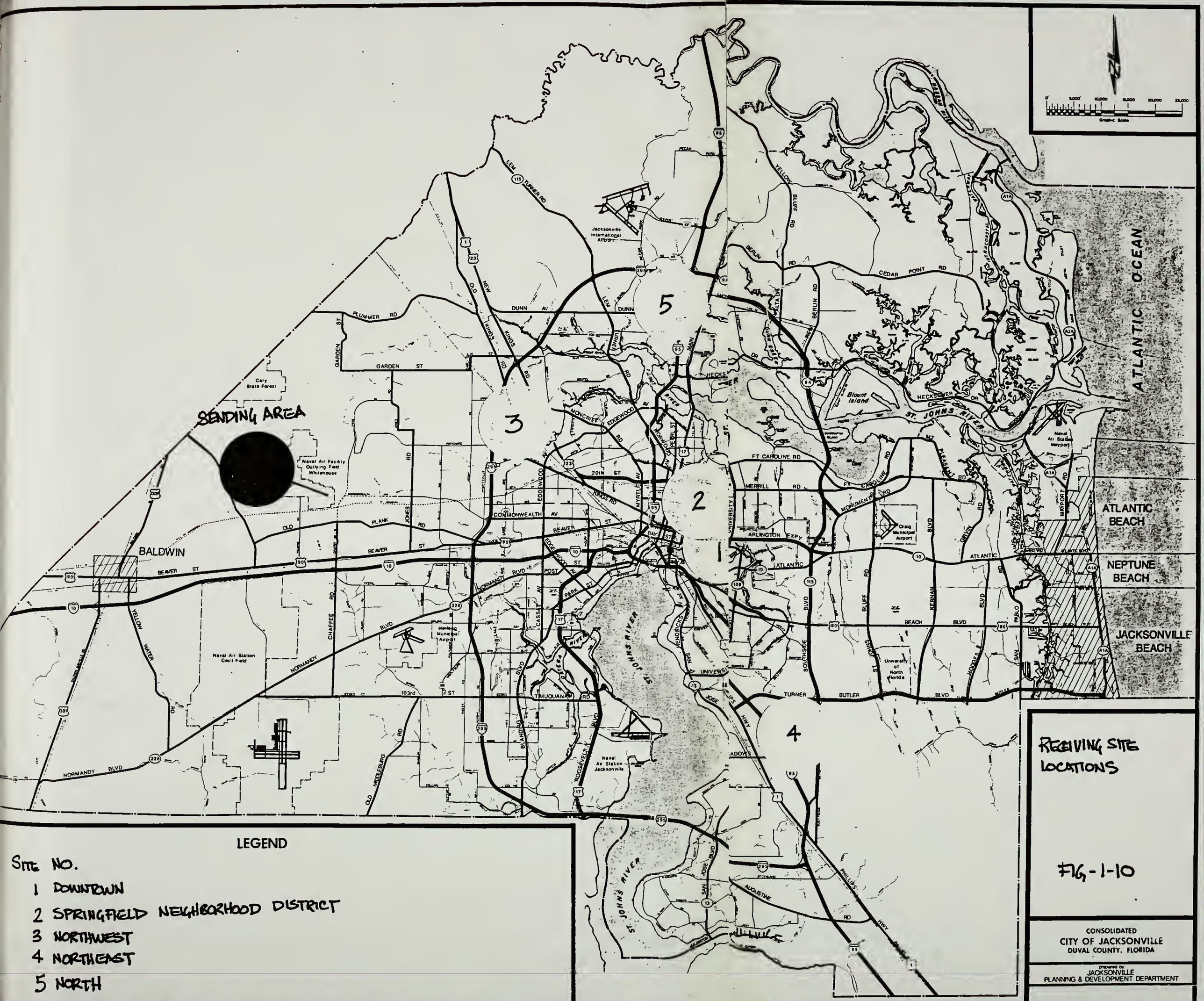
7. Amenity(s)

Receiving areas with amenities have a greater chance of succeeding. A residential development with a golf course or

other amenity can be an asset not only to the residential development but to the surrounding community. Receiving areas must have the potential for a special amenity.

This research has analyzed five receiving sites in the greater metropolitan area of Jacksonville. The location of the receiving sites are shown in figure 1-10. Each site has been analyzed in accordance with the above criteria. For purposes of this research only one site will be looked at in greater detail in order to establish a method for valuation of a Transferable development right. It is emphasized that a complete feasibility analysis must be conducted to any of the selected receiving sites. The scope of this research is only to develop a general model for a TDR program and will not perform a feasibility analysis on the selected site.

Site number 2 located in the Springfield Neighborhood District in the city of Jacksonville has been selected for purposes of establishing a method of valuation (see appendix for method of selection based on a numerical ranking and weighing).



LEGEND

SITE NO.

1 DOWNTOWN
2 SPRINGFIELD NEIGHBORHOOD DISTRICT
3 NORTHWEST
4 NORTHEAST
5 NORTH

RECEIVING SITE LOCATIONS

FIG-1-10

CONSOLIDATED
CITY OF JACKSONVILLE
DUVAL COUNTY, FLORIDA

prepared by
JACKSONVILLE
PLANNING & DEVELOPMENT DEPARTMENT

CHAPTER 8

VALUATION OF RIGHTS

The Springfield Neighborhood District is approximately one square mile is area or about 620 acres. In order to simplify the valuation of the development rights only 50 acres in the receiving site will be used as an example to show how development costs comparisons at different densities can determine the value of a potential TDR from the sending area to the receiving site. The following assumptions are made:

1. Farmland zoned for single family residential development on one acre lots sell for $18,000 an acre in the area of the sending. A higher value as compared to agricultural land.

2. The value of farmland as a productive farm is approximately $1,700 in the sending area.

3. The difference of value is $16,300 per acre. This is the amount the farmer would expect as compensation for the development potential of his land.

4. Local government has adopted a TDR Ordinance and Springfield Neighborhood District is designated a receiving site. The sending site is located in ACUIZ zone three.

5. A developer is interested in developing 50 acres for residential development in the Springfield Neighborhood District.

A method to determine the feasibility of value based on DU density (Roddewig, 1987) is shown in figure 1-11.

SPRINGFIELD RECEIVING SITE
DEVELOPMENT COST COMPARISON AT DIFFERENT DENSITIES

Units per acre		1	2.5	3.5	4.5
Land aquisition		900000	900000	900000	900000
Miscellaneous acq. (2%)		18000	18000	18000	18000
Planning & subdivision					
Approval (1200\acre)		60000	60000	60000	60000
Development cost					
20000\acre		1000000			
36000\acre			1800000		
56000\acre				2800000	
62000\acre					3100000
Subtotal		1978000	2778000	3778000	4078000
Plus holding costs					
	30%	593400			
	25%		6945000		
	20%			755600	
	15%				611700
Total project cost		**2571400**	**3472500**	**4533600**	**4689700**
Gross sales		3300000	5000000	6300000	6750000
Less: 10% cost of sales		330000	500000	630000	675000
Gross Margin		2970000	450000	5670000	6075000
Less: Total project costs		2571400	3472500	4533600	4689700
Profit		398600	1027500	1136400	1385300
Porfit as % of total project costs		**15.5**	**29.6**	**25**	**29**
At 15.5% profit, total extra cost that can be incurred *			**489263**	**433692**	**658396**
Additional DUs			75	125	175
Extra ;and cost per additional DU that can be incurred and still achieve a 15.5 % profit **			**6523**	**3469**	**3762**

* calulated as follows: (for 2.5 units) 3472500 x .155 = 538237
1027500 - 538237 = 489263

** calculated as follows: 489263/75 = 6523
The developer can spend an additional $489,263 in acquisition of TDRs and stll achieve a 15.5 % profit

The value of a TDR at 2.5 density is $6,523 , $3,469 at 3.5 density and $3,762 at 4.5 density.

Figure 1 - 11

The developer in the receiving site will be willing to pay about $6,500 for each additional dwelling unit on a density of 2.5 units per acre. The profit is well above the 15% rate of return standard. The farmer in the receiving area expects at least $16,300 per acre as compensation for the development potential of his land. If the farmer in the sending area, participated in the TDR Program was given 2.5 dwelling units per acre in TDRs, the compensation would be approximately $16,307 per acre. This would mitigate the difference between the value of the land for residential development and its value for continued agricultural use.

Springfield Neighborhood District presently contains a multitude of zoning classifications. Densities up to 20 units per acre are permitted in certain areas, as long as they are treated as PUDs. In a report to the New Jersey Pinelands Commission (Nicholas, 1988), Dr. J. Nicholas sites the following proposition as the value of the Pinelands Development Credits (PDCs):

> "PDCs would tend to have their highest values in the in the lower density ranges. However, PDCs would continue to have value up to the 9 to 10 units per acre range."

This implies that increased density does not necessarily increase the value of a TDR as evident in the method used to determine the value. The actual value of the TDR diminished as density increased. The Key point to emphasis is that the purchase of TDRs must increase densities sufficiently that use of the rights becomes financially attractive for the

developers. More precise methods in determining the value of a TDR exists, however this paper is concerned in establishing a general TDR model applicable to other air installations. TDRs do offer more permanent resource protection than zoning of property and provide landowners with compensation in return for recorded deed restrictions on the future use of the land.

CHAPTER 9

BASE CLOSURE AND REALIGNMENT PLANNING

The recent decision by the Defense Base Closure and Realignment Commission has recommended that Naval Air Station Cecil Field be closed. The Commission has presented the recommendations to the President for closing facilities and realigning others in accordance with the Nation's base closing law of 1988. Once congress receives the report from the President, it has 45 legislative days to enact a joint resolution of disapproval. Unless it clears both houses, the Commissions recommendations will be adopted. It is unlikely that Naval Air Station Cecil Field will be taken off the base closure list. The 50 year old master jet base and its 17 jet squadrons and 8,500 military and civilian employees will be relocated and the facilities closed. The base closure process will not happen overnight, it may take five to six years to relocate operations and eventually dispose of the real estate. This has been the second round of closures since the 1990 Defense Base Authorization and Realignment Act of 1990. The next and final round is expected in 1995.

Communities that have the potential in losing a military installation have recently turned 180 degrees in full support of their military bases in fear of losing the economic

benefits of their military installation. Both the City of Jacksonville and the Naval Air Station Cecil Field have for years experienced serious encroachment problems. In the recent Jacksonville defense to the Commissions it was stated by the City of Jacksonville that "there are no encroachment problems with the base" (The Florida Times Union, 1993). This last minute action seams to put the Jacksonville community in a defensive posture. It is a matter of official record as discussed in Chapter 2, of the realistic and serious encroachment problems that exist. Although base closures are not decided by encroachment problems alone, they can certainly influence a decision for closure. Before the next and final round of base closures, communities will make every effort to keep their military installations from being closed. In the context of an innovative growth control tool, a TDR Program can alleviate present encroachment areas around military installations and decrease their potential for closure for 1995. TDRs can certainly mitigate the differences in planning policy and provide an inexpensive alternative for communities that want to keep their military air installations.

CHAPTER 10

CONCLUSION

The general TDR model established in this paper is designed to be used for communities with military air installations. The protocol in the model emphasizes the importance of the private development process formulated within a mandatory framework. In order for a TDR Program to be successful and avoid legal litigation, it must be in accordance with local comprehensive plans. In designing a TDR Program it is emphasized that the process of due diligence must first be completely carried out, before pursuing a program. All regulations, key participants and other elements as discussed in Chapters 4 and 5 must be identified and analyzed. As in any project feasibility analysis, investment backed by expectation, must be guaranteed to the development community. Without out them, the potential for a successful TDR Program is diminished. The demand, supply, and value of TDRs must be orchestrated by the open market.

In the last twenty years there is no program, other than land acquisition which can constitutionally achieve the protection of identifiable land resources and mitigate against the windfalls and wipeouts of public regulation other than TDRs. Communities with a military installation must minimize

encroachment conflicts and ensure that their military base does not make the next round of base closures.

APPENDIX

TDR PROPOSITIONS

CONCEPT: PRESERVATION OF RURAL OPEN SPACES

A. RECEIVING DISTRICTS (MARKET AND INFRASTRUCTURE)

B. INVESTMENT BACKED BY EXPECTATION

C. ANALYZE OPPORTUNITIES AT VARIOUS DENSITIES

D. MORE RECEIVING SITES THAN TDRs

E. LOCAL GOVERNMENT GUARANTEES

F. LIMITED GOVERNMENT INVOLVEMENT IN SALE OF TDRs

G. LOW DENSITY IN SENDING SITES

H. CHOICE BETWEEN VOLUNTARY OR MANDATORY

I. TDR BANK

J. IDENTIFICATION OF ACTORS

K. FACILITATORS

L. SIMPLICITY

M. COMMUNITY COMMITMENT

N. INTEREST OF ALL ACTORS (DEVELOPMENT CHAIN)

TDR MODEL FOR NAS CECIL FIELD

1. ANALYZE REGULATORY CONSTRAINTS

   + TDR ORDINANCE IN PLACE
   + IN ACCORDANCE WITH COMPREHENSIVE PLAN
   + ZONING REGULATIONS
   + ALLOWABLE DENSITIES
   + STATE AND FEDERAL AGENCIES
   + ENVIRONMENTAL CONSTRAINTS
   + LEGAL CONSTRAINTS
   + LOCAL GOVERNMENT COMMITMENT

2. IDENTIFICATION OF KEY PARTICIPANTS

   + DEVELOPERS OF LAND IN RECEIVING SITES
   + LANDOWNERS IN SENDING AREA
   + LOCAL GOVERNMENT OFFICIALS
     CITY PLANNING, ZONING, PROPERTY TAXATION
   + NAVY OFFICIALS
     PLANNING, ACUIZ AUTHORITY
   + MORTGAGE LENDERS ON BOTH SENDING AND RECEIVING AREAS
   + REAL ESTATE BROKERS AND LAND TITLE COMPANIES

3. CHOICE BETWEEN VOLUNTARY OR MANDATORY PROGRAM

   + QUASI PROGRAM IN SALE OF TDRs

4. IDENTIFICATION OF SENDING AREA

   + ENVIRONMENTAL ASSESSMENT
   + MARKET ANALYSIS
   + VALUATION OF TDRs

5. IDENTIFICATION OF RECEIVING SITES

   + DEVELOPMENT APPROVAL
   + AVAILABILITY OF INFRASTRUCTURE
   + DENSITY ABSORPTION RATES
   + RELATIONSHIP OF TDRs CREATED

6. IDENTIFICATION OF FACILITATORS

   + CITY, NAVY, DEVELOPERS, REALTORS

7. SIMPLIFY PROCESS

8. PROMOTE AND EDUCATE

   + COMMUNITY\NAVY PRO ACTIVE INVOLVEMENT

RANKING AND WEIGHING OF RECEIVING AREAS

Each site is assigned a numerical value in relation to each of the ranked criteria. The site with the highest total numerical value is designated as the sending area.

CRITERIA RANKING	POINTS	x	WEIGHT	=	VALUE
1. "IN ACCORDANCE WITH"	(1-5)	x	5	=	VALUE
2. REASONABLE RRR FOR DEVELOPERS	(1-5)	x	5	=	VALUE
3. SUSTAINABILITY	(1-5)	x	4	=	VALUE
4. COMPATIBLE ZONING	(1-5)	x	4	=	VALUE
5. SPECIAL NEIGHBORHOOD DISTRICT	(1-5)	x	3	=	VALUE
6. MORTGAGE LENDERS	(1-5)	x	2	=	VALUE
7. AMENITY(S)	(1-5)	x	1	=	VALUE

SITES

	1	2	3	4	5
CRITERIA	DOWNTOWN	SPRINGFIELD	NORTHWEST	SOUTHEAST	NORTH
1	15	20	10	10	10
2	15	15	10	20	10
3	20	20	8	4	8
4	4	4	8	20	12
5	9	15	0	0	0
6	8	2	4	6	4
7	5	4	1	3	1
TOTAL POINTS	**76**	**80**	**41**	**63**	**45**

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BIOGRAPHICAL SKETCH

Manuel Delgado-Ruiz was born on September, 1952 in the State of San Luis Potosi, Mexico. He grew up in Racine Wisconsin and graduated from William Horlick High School in 1971. Mr. Delgado-Ruiz then entered the University of Wisconsin-Milwaukee, where he received the degree of Bachelor of Arts in Architecture in 1975. In September of 1976 Mr. Delgado-Ruiz entered the Graduate Program in the School of Architecture and Urban Regional Planning at the University of Wisconsin-Milwaukee. He graduated with the degree of Masters in Architecture in May of 1979. In October of 1983 Mr. Delgado-Ruiz was commissioned as an Ensign in the Civil Engineer Corps of the United States Navy. He has served in duty stations in Portsmouth Virginia, Great Lakes Illinois, and Port Huaneme California. He has subsequently received two promotions in grade , and currently holds the rank of Lieutenant. Lt. Delgado-Ruiz will return to active duty in the Navy after his graduation from the University of Florida in August of 1993.